

NEWS

Geological Society of Minnesota

MINNEAPOLIS, MINNESOTA



FIRST CLASS



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GEOLOGICAL SOCIETY OF MINNESOTA

NEWS LETTER

Dec. 31 Jan. & Feb. 82



OFFICERS

Pres. Dwight Robinson
V. Pres. Dick Uthe
Treas. Elaine Fink
Sec. Jay Hutchinson

DIRECTORS

Henry Gangle
Dale Johnson
George Johnson
Conrad Nelson
Elizabeth Ooten

ELECTIONS HELD

At the annual meeting George Johnson and Dick Uthwere elected to the Board for a first term, and Elaine Fink, Henry Gangl and Jay Hutchinson were returned for a second term.

The Board elected the following officers for 1982; Dwight Robinson, President; Dick Uthe, Vice President; Elaine Fink, Treasurer; Jay Hutchinson, Secretary.

LETTER FROM THE PRESIDENT

For a modern day "rock group", GSM certainly follows a different drummer. For long-playing records, ours has got the longest LP's beat by several country miles! But you don't have to sit and watch a rock erode or camp along a fault line to get some action. So far we have watched Mt. St. Helens blow its top, plumbed the ocean depths, hurled into outer space with the voyagers, traveled width and breadth of the geological column from Minnesota to the Grand Tetons and visited the moon (to name a few things). Where else can you get all that for the mere price of admission?

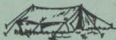
As I assume the duties of "rock head" for 1982, I want to thank Henry Gangl on behave of all the GSM members for the great job he did in 1981 and I look forward to another good year with GSM. As a non-profit organization, we don't have to anticipate federal budget cuts but we did have to take action to avert our own revenue shortfall. Membership is still a bargain but the real assets are you the members. We can't just sit on our agates. These past few years are hard acts to follow. Be a supporting member. The Board welcomes any and all input from members. If you have ideas or interests you'd like to develop or skills you can share, let us know. Now is the time to plan for 1982.

See you next year and Happy Holidays!

from Dwight Robinson

P.S. For a real holiday treat, check out the December-1981 Smithsonian centerfold. It's a real knockout. For those bigger stockings, copies are only \$4.00 by mail from the Smithsonian or you might want to stuff your own stocking with a deal like this!

BAD LANDS AND BLACK HILLS



July 1981 Field Trip Part 2 by Jay Hutchinson

Day 2 was a hundred degrees hot. Especially memorable was the mile hike up Little Elk Creek Canyon Road to see where the cool creek had cut through "White Gate" and to see the monocline of Deadwood sandstone. We cooled our feet in the stream while Bill talked of the 2.5 billion-year-old Little Elk Creek Gneiss. He also showed us worm burrows in the Deadwood sandstone. Earlier at the first stop we had found the bullet-like Belemnites in the Sundance shale, laid down in a shallow sea. Walking back some of us stopped to munch on some tasty juneberries and identify flowers.

Bear Butte, an igneous intrusion barred by erosion -- a laccolith, was also interesting historically. Susan related the story of the 1859 Indian gathering here. The fine museum illustrated local Indian history. After lunch in the heat, we spied buffalo grazing in the distance. Upon leaving we saw where Indians come to hang offerings in the trees.

Spearfish Canyon was cooler and greener. Here we saw where igneous "phonolite" had intruded into the Deadwood Formation. This caused Bridal Veil Creek to slow its erosion and fall when it hit the resistant phonolite. Above, the Deadwood was horizontally layered; below, the fine-grained igneous rock was vertically jointed. A passing fisherman showed several nice trout to our group.

At Lead (rhymes with "seed") we stood on the brink of the open cut mine in the Homestake Formation. Phyllite, a metamorphic schist, is intruded with Tertiary aged igneous rock in lines of weakness. The gold was in the Precambrian rock. A bulldozer was trying to build a road along the wall of the pit. A sign that gold prices had made reopening the working worth while.

At night the campers joined the motellers Bill Miller, Ethel Shimek, the Cangl's, and Bradford's for fish dinner at Hill City. Unfortunately, the geological preparations shop in town, which sells local fossils and minerals to customers around the world, was closed.

On Day 3 Conrad Nelson completed his second bike ride to Hill City for breakfast--16 miles roundtrip. I'm glad I wasn't buying. We started off with a visit to Keystone where Susan recounted the Black Hills gold rush of the 1870's. On the road out we saw 2 billion-year-old schists being crosscut by light-colored pegmatites which are "distillates" of the younger granite and are coarse-grained. Now we were at the center of the Black Hills--in the igneous core. The vapor given off when these igneous rocks were intruded causes concentrations of beryl and other minerals to crystallize out.

New Members

Scott Freburg
G-115 Schoemaker Hall
St. Cloud 56301

Robert H. Fredrickson 484 3618
3551 Owasco St.
St. Paul 55112

Henry & Patricia Hanson 455 5166
449 12th Ave. N., #11
South St. Paul 55075

George & Mary Ney 426 2814
919 Park Avenue
Mahtomedi 55115

Janet H. Savelkoul 226 6278
530 Holly Ave.
St. Paul 55102

Nick Demma
1414 7th St. S. E.
Minneapolis 55414

Nick & Tolly Wales 777 1615
4863 Olson Lake Trail
Lake Elmo 55042

James & Diane Verplough 770 8175
2951 Furness St.
Maplewood 55109

Catherine Kellar 827 6576
3325 Nicollet, #306
Minneapolis 55408

CHANGE IN TELEPHONE:

Grace Benz 228 0078

Clifford & Margaret Sommers 588 8406
1840 Noble Drive
Golden Valley 55422

Sr. Martha Kieffer 690 5139
1523 Sargent
St. Paul 55105

David B. Wall 571 2272
6850 Washington St. N. E.
Fridley 55432

David H. Palmer 474 4382
20050 Lakeview Ave.
Deephaven 55331

Donald Tepel 699 1793
1269 Cleveland Ave. S.
St. Paul 55116

Lil Hutchinson 484 7197
3232 Woodbridge St.
St. Paul 55112

Flora E. Hauser 872 7413
2715 Humboldt Ave. S., #10
Minneapolis 55408

Thomas C. Hanson 881 0172
11022 Russell Circle
Bloomington 55431

ADDRESS CHANGES:

Nancy R. Read 644 0588
2159 Folwell
St. Paul 55108

Dorothy Longfellow 927 9522
3824 West Calhoun Pky.
Minneapolis 55410

Membership Chairperson

Marjorie McGladrey (612) 461-2676
Route 1, Box 177
Elko, MN 55020

Official Address

Mary Kimball (612) 644-6429
1711 Marshall Avenue
St. Paul, MN 55104

Memberships:

REGULAR		OTHER	
Husband/Wife	\$ 15.00	Sustaining	\$ 25.00
Single	\$ 10.00	Supporting	\$ 50.00
Student, full time	\$ 3.00	Guarantor	\$100.00
*ASSOCIATE			
Husband/Wife	\$ 10.00		
Single	\$ 7.00		

*Associate membership is made available to those who due to health, location or financial status are unable to participate fully or sustain a regular membership.

BOOK REVIEW

The Dinosaur Book. A Fantastic New View of a Lost Era. By William Stout (Illustrator). Text by William Service 1981. Bantam Books.

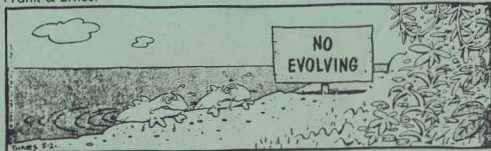
by Dwight Robinson

Who has not gaped in awe at the articulated skeleton of a large dinosaur and wondered, at least momentarily, what it would be like to meet one in the flesh? Only 157 years have lapsed since the first dinosaur bones came to light and the subsequent evolution of thought concerning the beasts has been at least as fantastic as the finds themselves. Ray Bradbury finds it hard to imagine a man, woman or child who would not clamor aboard a time machine for a first hand view even at the risk of being breakfast for some roving Tyrannosaurus or perhaps a doormat for "Brontosaurus". Your sentiments may differ but the bones stand as irrefutable testimony of things past. Things that hatched, ate, grew large, mated and died and some of them could have given J.R. of "Dallas" a real run for his money!

Somehow such epic events as the Jurrasic, the Morrison Formation or the Sierra Orogeny, etc., have yet to hit the media "big time" but they are now out in paperback as convenient "back drops" for a truly colorful cast of characters—most bigger than life. From parasites and "child rearing" to "bathroom" and "bedroom", William Service and illustrator William Stout "bring'em back alive". Chucking the familiar hedging conjecture of the trained paleontologist and the sedate confines of strict geological time sequences, the authors jump whimsically about the Mesozoic on a snapshot tour of "events" which might well have occurred. You may find all this too familiar or presumptuous but the book is openly "fantastic". Peter Dodson, a one-time student under John Ostrom, rides herd along the sidelines for those who appreciate some bearing in time and space. Candidates for the Mesozoic World Book of Records are included at the end along with a family scrapbook of the 2 major orders: Saurischia and Ornithischia and summary notes on scientific names, chronology, geography, dinosaurian heights and weights as well as a wee glossary of "paleo" terms.

A portion of the profits from the book are being donated to The Dinosaur Fund, a non-profit organization dedicated to the survival of endangered species. While clearly tootale for the great beasts of yore, they may be gone but not forgotten. From a torrid (and noisy) hadrosaur mating encounter to a cliff-hanging sauropod it's action all the way! You can jump in almost any place but don't look for page numbers. Warning: Some sections may be objectionable for certain audiences. (All the more reason to read).

Frank & Ernest



FAIR BOOTH A SUCCESS

The Society thanks the following members who served one or more shifts at our state fair booth. Liz Ooten's excellent display attracted many visitors.

LESLIE NELSON
PEARL DOWNNEY
KENNETH BRENNEN
AL HAGE
CRACK FIENZ
HENRY AND MARJORIE CAGLE
BOB AND MARCIA GUNVILLE
RAY GILLES
WALT HANDSCHIN
DALE AND WILMA JOHNSON
DR. ALEX AND MARLYS LOWE
LES COLLINS
ROD AND PEGGY NERDAHL
DICK AND EVA SELANDER
DOROTHY LONGFELLOW
BERNADINE RISKE

DON AND BETTY WHEELER
ZEC MACDONALD
MARJORIE MCGILADREY
VERN AND VIVIAN BLOMQUIST
BILL MILLER
ETHEL SHIMICK
SR. JOAN KAIN
BOB HANDSCHIN
BETTINA LINDSAY
ELAINE FINK
RALPH AND MARIETTA NOVOTNY
MARJORIE NOVOTNY
MARGARET NOVOTNY
MARY GALEN O'CONNOR
MIKE SOLNESON
NANCY READ
CLARENCE AND ELIZABETH COTEN

THUMB NAIL SKETCHES

Dwight Robinson, President, is a native of Minnesota and is employed by State Dept. of Agriculture, Shade Tree Program. His main interest in geology is paleontology and plate tectonics. Other interests are evolution and astronomy.

He first became aware of G.S.M. at the state fair booth in 1975. He likes to write and plays the piano and the autoharp.



Dick Uthe, Vice President, is a bachelor who comes to Minnesota from Cleveland. He is a geologist at the U. of M. and among other accomplishments, makes a marvelous pizza.

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STAFF: Dwight Robinson, Jay Hutchinson, writers; Lorraine Madison, typing; Kathy Kellar, Irene Jaworski, production.

Bad Lands Trip



Next we went to the glittering pit of the Etta Mine, once the world's chief source of lithium. This pegmatite was first mined for sheet mica (muscovite), later tin, then for the huge spodumene crystals and their lithium. (Henry Gangl said that spodumene was shipped to St. Louis park for refining during WW II). Giant crystals of spodumene several feet long were embedded in the walls. The largest here was 74 feet long! Tiny tourmaline crystals were seen in the schist that had turned to "granulite" upon intrusion of the pegmatite.

At Mt. Rushmore Conrad and I lunched looking up at George Washington's granitic nose (but schisty right shoulder). Only geologists would notice that all four of the country's most illustrious statesmen have been hanging around numerous weathered joints in the Harney Peak granite for more than 40 years now.

At Custer State Park we were in the heart of the Harney Peak dome, in a 1.74 billion-year-old granite that was youngest of the Precambrian rocks. Erosion in the joints led to formations like the "needle's eye", a curious slot in a granite pinnacle. Joints here often run at right angles to each other. A bus driver squeezed his bus through a tunnel--a partly eroded joint itself--we cheered. He came close to scraping: most interesting "xenolith", a huge chunk of the host schist that was caught up and floated away in the granitic magma that was intruded. The rocks of this region went through 4 to 6 periods of metamorphism. They have been dated by potassium-argon techniques, even though the "clock" is reset at each metamorphism.

Next stop was to see "schistosity" in which mica forms at right angles to a cleavage plane, making a wavy pattern in banded gneiss. This gneiss had biotite, feldspar, and quartz -- indicating that its origin was a clay or silt, thus a moderately deep marine deposit. Next we came to a limestone that had metamorphosed into a marble containing epidote crystals and actinolite, known as a "skarn". This whole outcrop was a giant xenolith of Precambrian limestone that was pushed up by the intruding magma (granite), sank down, and for some reason wasn't eroded away.

A long, windy road took us to Wind Cave and the trip's end. It was sheer delight to enter the cave's 55-degree passages. Bob Gunville arranged a free tour of extra length. The cave "exhales" or "inhales" depending on what the barometer is doing. The park ranger was adept at turning the little kids of the group into future geologists and spelunkers by having them point out features as the adults trooped by. Wind Cave is a rather dry cavern but is world famous for its lacy boxwork that forms on joints in the ceiling in many places. The low point was about 275 feet below where we started.

Back out in the late afternoon heat, we scattered to the four winds. Thank you Rohrer's for your leadership, and Gunville's for your planning!

Jay Hutchinson

WORTHY OF NOTE

SKYWATCHERS * ATTENTION

The University of Minnesota's 10 $\frac{1}{2}$ -inch refractor telescope will be open to the public the first and third Friday of every month if the sky is at least half clear.

The hours are from 7:30 to 9:30 p.m. and the telescope is located in room 450 of the Physics Building 116 SE Church St. U. of M. Minneapolis.
(from Mr. Fixit, Minneapolis Tribune 11-11-81)

LIFE ON EARTH

U. of M. Extension is offering a television course on Channel 2 about the origin of life on earth. LIFE ON EARTH will begin on Tuesday, January 12, 8 to 9 p.m. and continue for 13 weeks. (May also be taken for credit from the General College.)

The film is based on the BBC production of the same title written and narrated by zoologist David Attenborough. The evolution of life, the emergence of unicelled organisms; the migration of living things from sea to land; adaptation of life in the air; the specialized breeding techniques that ensured the mammals' success in colonizing the earth.



LECTURES TO CONTINUE

The lectures will continue, starting January 11.

RENEW YOUR MEMBERSHIP NOW

Membership Chair, Merjorie McGladrey plans to have the 1982 rosters ready by March 1. Memberships are due and payable Oct. 1, as a result of a change in by-laws approved at the annual meeting in Sept. Rosters may be picked up at lectures.

In order for members to be included in the roster she would like to receive all payments by Feb. 1.

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PREDICTIONS

FIELD TRIPS,

Bob Gunville will arrange field trips for every other week end. Two busses will be filled each time. There will be one professor leader and two or three graduate student assistants. All schedules will be maintained, including returning at appointed time. No one will be late. The weather will always be great.

FAIR BOOTH will have at least two attendants for each shift, members will be so eager to help.

At least 100 new members will be accepted in 1982-83. No one will drop out. The membership will vote to donate at least twice amount of yearly dues.

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